

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION DISTRICT 4 OFFICE OF ENVIRONMENTAL ENGINEERING 111 GRAND AVENUE OAKLAND, CALIFORNIA

PREPARED BY:

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CALTRANS CONTRACT 04A1862 TASK ORDER NO. 53 EA No. 04-129650

GEOCON PROJECT No. E8220-06-53







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REPORT LIMITATIONS

This asbestos survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos in structures. Due to the nature of structure surveys, asbestos use, and laboratory analytical limitations, some ACM in the structure may not have been identified. Structure spaces, such as cavities, crawlspaces, and pipe chases, may have been concealed to Geocon's investigator. Previous structure renovation work may have concealed or covered spaces or materials, or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced ACM with indistinguishable non-ACM. Asbestos may exist in areas of the structures not accessible or sampled in conjunction with this TO.

During renovation or demolition operations, suspect ACM may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect ACM are found, additional sampling and analysis should be performed to determine if the materials contain asbestos.

This report has been prepared exclusively for the State of California Department of Transportation (Caltrans) District 4. The information contained herein is only valid as of the date of the report, and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

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EXECUTIVE SUMMARY

This Site Investigation Report was prepared for the Wilfred Avenue Interchange Project. The project consists of the Wilfred Avenue Interchange (Bridge 20-0053) on State Route (SR) 101 located at Post Mile (PM) 15-02 in the city of Santa Rosa in Sonoma County, California. The Site location is depicted on the Vicinity Map, Figure 1. It is understood that Caltrans proposes replacement of the bridge

This report documents the investigation sampling methods and laboratory analytical data. The primary objective of the survey was to determine and quantify asbestos on the subject bridge. The information obtained from this investigation will be used by Caltrans to coordinate proposed bridge replacement activities, determine appropriate abatement/disposal costs, and identify health and safety concerns during improvements.

The field investigation was performed on March 7, 2006. The following field activities were performed during asbestos sampling efforts.

- Collected six bulk asbestos samples from the subject bridge.
- Transported samples to a California-certified environmental laboratory.

Samples were collected from locations as shown in the Site Plan, Figure 2. Sample identification numbers are presented in Table 1. Materials represented by the samples collected are shown in the Photographs.

Bulk asbestos samples were collected after first wetting the material with a light mist of water. The samples were then cut from the substrate and transferred to a labeled container and sealed. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).

Geocon relinquished bulk asbestos samples for asbestos analyses using standard chain-of-custody documentation. Asbestos content was determined using EPA Test Method 600/R-93/116 for polarized light microscopy (PLM). Laboratory analyses were performed within a 2-day turn-around-time.

The laboratory analyses indicated that asbestos was not detected in samples representing suspect materials observed on the bridge. The laboratory results for the asbestos samples are summarized on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

Since no asbestos was detected in samples collected during the survey, the Cal/OSHA asbestos standard does not apply for planned bridge replacement activities at the Site. In addition, demolition debris at the Site would not be considered as a California hazardous waste based on asbestos content.

However, in accordance with Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2, written notification to BAAQMD is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

SITE INVESTIGATION REPORT

1.0 INTRODUCTION

This Site Investigation Report was prepared for the Wilfred Avenue Interchange Project. This report documents the investigation sampling methods and laboratory analytical data.

1.1 Site Description

The project consists of the Wilfred Avenue Interchange (Bridge 20-0053) on State Route (SR) 101 located at Post Mile (PM) 15.02 in the city of Santa Rosa in Sonoma County, California. The Site location is depicted on the Vicinity Map, Figure 1.

1.2 Purpose

This report documents the investigation sampling methods and laboratory analytical data. The primary objective of the survey was to determine and quantify asbestos on the subject bridge. The information obtained from this investigation will be used by Caltrans to coordinate proposed bridge replacement activities, determine appropriate abatement/disposal costs, and identify health and safety concerns during improvements.

2.0 BACKGROUND

The Code of Federal Regulations (CFR), 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains greater than 1% asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- Category I asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- Category II all remaining types of non-friable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM) is classified as any manufactured material that contains greater than 1% asbestos by dry weight and is:

- Friable; or
- · Category I material that has become friable; or
- · Category I material that has been subjected to sanding grinding, cutting or abrading; or
- Category II non-friable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard contained in Title 8, CCR Section 1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that may make it cost ineffective to do so. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains more than 0.1% asbestos (Title 8, CCR 341.6).

3.0 SCOPE OF SERVICES

The following scope of services was performed:

3.1 Pre-Field Activities

- Prepared a Workplan, dated January 23, 2006, to summarize the scope of services to be performed by Geocon.
- Prepared a Health and Safety Plan, dated January 23, 2006, to provide guidelines on personal safety during the field activities.
- Retained the services of EMSL, a Caltrans-approved laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), to perform the asbestos analyses.

In addition to survey activities, Geocon reviewed architectural plans of the bridge as part of our investigation. Geocon observed no evidence of asbestos use in the architectural plans provided by Caltrans.

3.2 Field Activities

Mr. David Watts, a California Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2006) performed the asbestos survey on March 7, 2006. A total of six bulk samples of suspect materials were collected.

Suspect ACM was grouped into homogeneous areas with representative samples collected from each suspect material. In addition, each potential ACM was evaluated for condition and friability. Samples were collected from locations as shown in the Site Plan, Figure 2. Sample identification numbers are presented in Table 1. Materials represented by the samples collected are shown in the Photographs.

Contract 04A1862, EA 04-129650 March 28, 2006

INVESTIGATIVE METHODS 4.0

4.1 Sampling Procedures

Geocon's procedures for inspection and sampling are discussed below:

- Collected bulk asbestos samples after first wetting the material with a light mist of water. The samples were then cut from the substrate and transferred to a labeled container and sealed. Note that when multiple samples were collected, the sampling locations were distributed throughout the samples were homogeneous area (spaces where the material was observed).
- Relinquished bulk asbestos samples for asbestos analyses using standard chain-of-custody documentation.

4.2 **Laboratory Analyses**

Asbestos content was determined using EPA Test Method 600/R-93/116 for polarized light microscopy (PLM). Laboratory analyses were performed within a 2-day turn-around-time.

5.0 INVESTIGATIVE RESULTS

The laboratory analyses indicated that asbestos was not detected in samples representing suspect materials observed on the bridge. The laboratory results for the asbestos samples are summarized on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

6.0 CONCLUSIONS

Since no asbestos was detected in samples collected during the survey, the Cal/OSHA asbestos and the standard does not apply for planned bridge replacement activities at the Site. In addition, demolition debris at the Site would not be considered as a California hazardous waste based on asbestos content.

However, in accordance with Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2, written notification to BAAQMD is required ten working days prior to commencement of any demolition activity (whether asbestos is present or not).

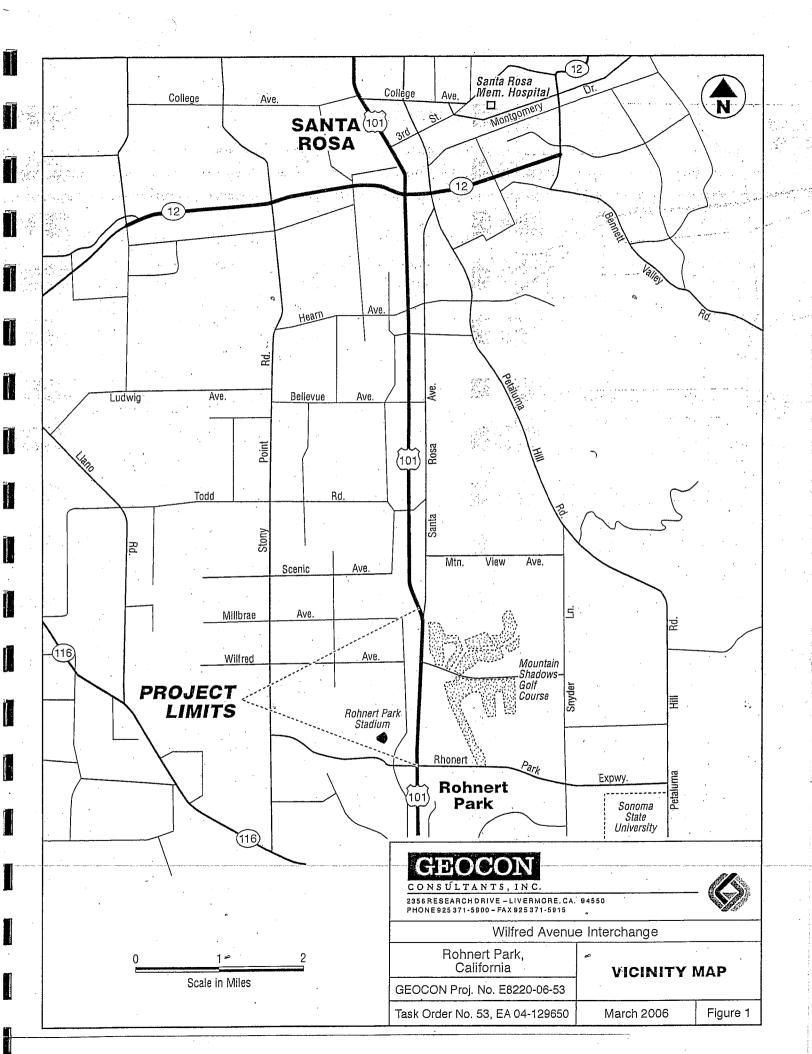
TABLE 1 SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - ASBESTOS WILFRED AVENUE INTERCHANGE IN ROHNERT PARK, SONOMA COUNTY, CALIFORNIA

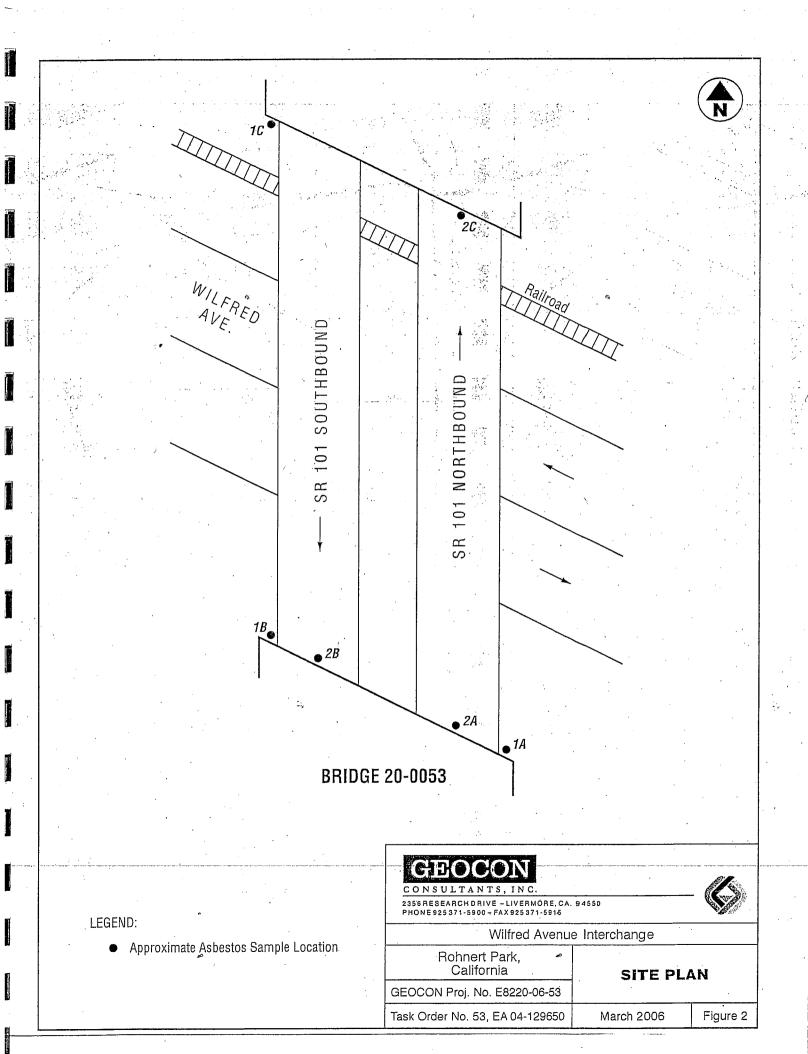
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Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

	1	• .
Asbestos Content	ON ON ON ON	9 Q Q
S.	4 3 80	
Site Photo	2	.
Friable Condition	NA A	NA
Friable	NA .	N A
Approximate Quantity	NA A	NA
Description of Material	Expansion joint material (abutments)	Expansion joint material (deck centerline)
Sample No.	0053-1A 0053-1B 0053-1C	0053-2A 0053-2B 0053-2C

Notes: NA = Not applicable (no asbestos detected) ND = No asbestos fibers detected l of l





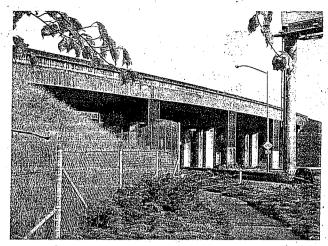


Photo 1 – State Route 101 over Wilfred Avenue (Bridge 20-0053)

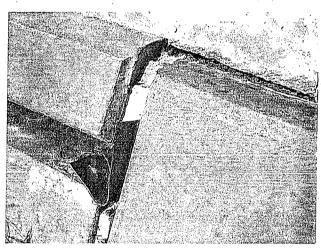


Photo 2 – Expansion joint material at abutments

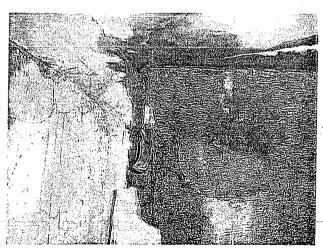


Photo 3 - Expansion joint material between new and old spans





PHOTOGRAPHS 1, 2, & 3	
Wilfred Avenue Interchange	
Rohnert Park, California	

E8220-06-53 Task Order No. 53

March 2006

APPENDIX



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(925) 371-5915 Phone: (925) 371-5900 E8820-06-53

EMSL Proi: Analysis Date:

Report Date:

EMSL Order:

3/10/2006 3/10/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized **Light Microscopy**

				Non-As	sbestos	<u>Asbestos</u>
Sample	Location	Appearance	. %	Fibrous	% Non-Fibrous	% Type <u> </u>
0053-1A, EJM 090600998-0001	Abutment	Black Fibrous Homogeneous	80%	Cellulose	20% Non-fibrous (other)	None Detected
0053-1B, EJM 090600998-0002	Abutment	Black Fibrous Homogeneous	70%	Cellulose	30% Non-fibrous (other)	None Detected
0053-1C, EJM 090600998-0003	Abutment	Black Fibrous Homogeneous	70%	Celluiose	30% Non-fibrous (other)	None Detected
0053-2A, EJM 090600998-0004	Deck C	Black Fibrous Homogeneous	1%	Cellulose	99% Non-fibrous (other)	None Detected
0053-2B, EJM 090600998-0005	Deck C	Black Fibrous Homogeneous	90%	Cellulose	10% Non-fibrous (other)	None Detected
0053-2C, EJM 090600998-0006	Deck C	Black Fibrous Homogeneous	90%	Cellulose	10% Non-fibrous (other)	None Detected

Analyst(s)

Lansing Wong (6) .

or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client.

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